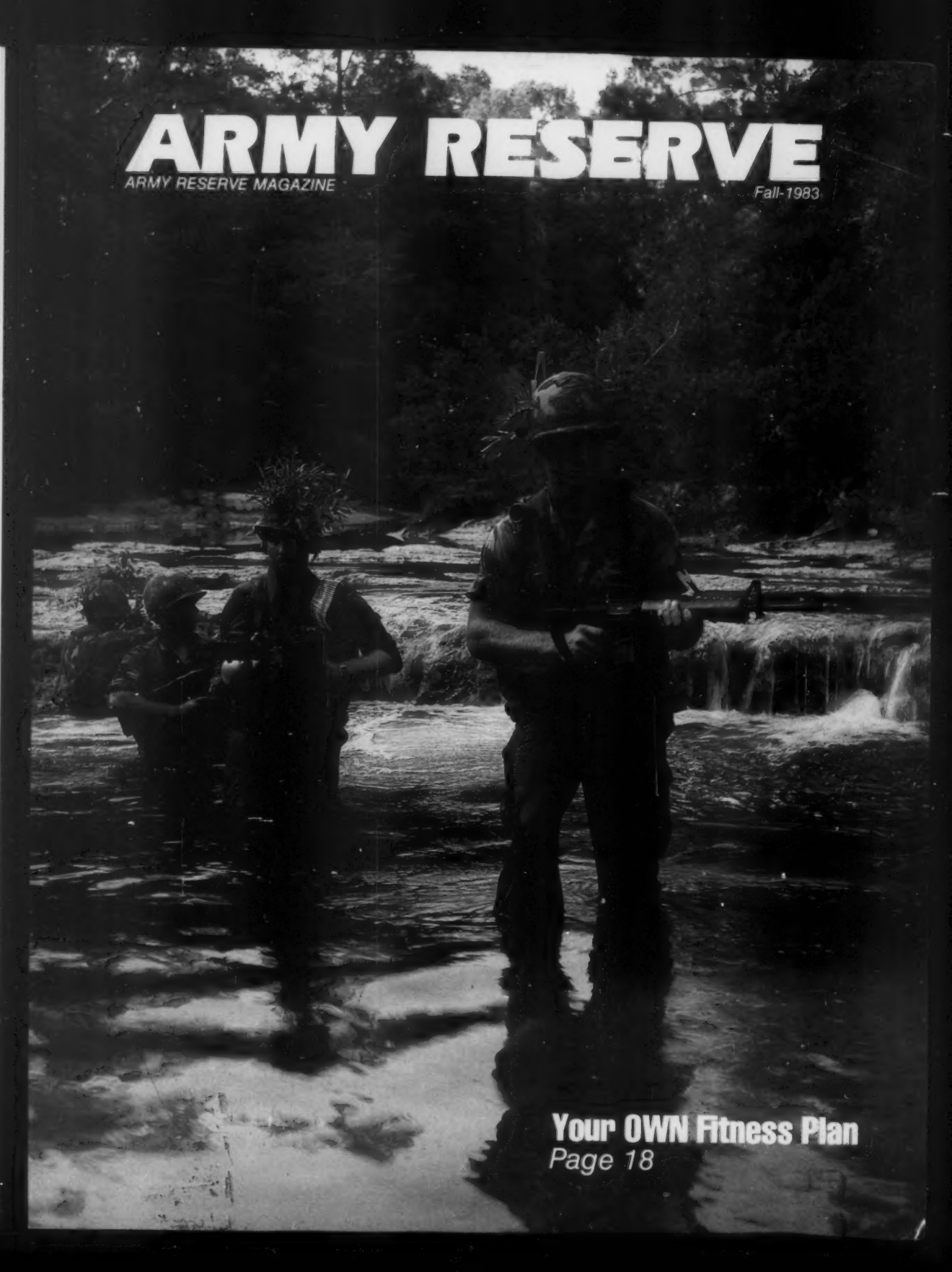
ARMY RESERVE
ARMY RESERVE MAGAZINE
Fall-1983
Your OWN Fitness Plan
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Troops get ready to cross the Black River during a training exercise at Fort Drum, N.Y. Early morning mist is enhanced by smoke from the 320th Chemical Company (Smoke Generating) from Jamaica, N.Y.

U.S. Army photo by Lew Brodsky

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■ Theft of Western technology by the Soviets has reduced the technology gap to less than two years. See the facts on **page 11.**

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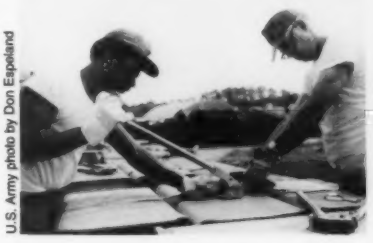
Joint Exercises Flex Reserve Muscle

■ Test your knowledge of eight joint military exercises where USAR participation is pivotal. Turn to **page 16.**



U.S. Army photo by Don Eapeland

A Personal Fitness Plan

■ A handy, detailed explanation on how to get into shape. Turn to **page 18.**

A Look at Annual Training at Fort Drum, N.Y.

■ See **page 30.**

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Vol. XXIX Number 4
FALL 1983

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Front cover: Pfc. Michael Klyat, Spec. 4 John Young and Pfc. Robert Kral, members of the 810th MP Company of Tampa, Fla., ford a river during a patrolling exercise at Camp Shelby, Miss.

Photo by John Pinderhughes

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BRIEFS

■ **When would your survivors be eligible for Dependency and Indemnity Compensation (DIC) if you suffered a cardiac arrest and died during stress testing (in conjunction with medical screening for Army Reservists 40 and older)?** That's right. When. The Army's Judge Advocate General says that, if you died during Inactive Duty Training (IDT), your dependents would not be eligible. However, if your death occurred while you were on Active Training (AT) or Active Duty for Training (ADT) they would be eligible. The Judge Advocate General cautions that definitive opinions on any survivor benefit can be rendered only by the agency responsible for administering that benefit. Whatever, it is *not* wise to take a stress while on IDT.

■ **Army Reserve unit soldiers don't have to go blind when they wear protective masks.** There's a procedure for obtaining spectacle inserts (prescription lenses). What units should do is clearly spelled out in a letter from the Command Surgeon, US Army Forces Command (Spectacle Insert Program for USAR Personnel, June 3, 1983). A copy of the letter should be available at every Major US Army Reserve Command (MUSARC) headquarters.

■ **How do you change your address for the Army Reserve Magazine?** If you're a member of the Individual Ready Reserve (IRR), call your career advisor (NCO) or personnel management officer on the appropriate toll-free line in St. Louis (see the RCPAC section in this issue). If you're assigned to an Army Reserve unit make sure that it has your correct address and that it reports that address on the DA Form 1379 it forwards after drills. Please don't write or call the editorial office here in Washington. We can't change your address and we will not acknowledge requests to do so.

■ **The Army's Reserve Components will be about the same size as the Active Army by the end of fiscal year 1983.** The personnel folks in Washington project that the number of Army Reserve and Army National Guard unit members and participants in the Active Duty Guard/Reserve (AGR) program will approach 776,900. The strength of the Active Army is expected to be about 780,000. Note that the Reserve Components total cited here doesn't include the Individual Ready Reserve (more than 200,000 soldiers).

■ **How are your height and weight supposed to be measured?** Here are a few rules the Army's set down for carrying out the Weight Control Program:

- Height and weight tables are constructed without shoes and outer clothing.
- If your height fraction is less than a half inch use the next lower screening height (in your age group). So, if you're 64¼ inches tall the 64-inch mark is used in determining your maximum weight.
- If your heighth fraction is one half inch or more the next higher screening height is used. If you're 64½ inches tall the 65-inch mark is used to figure out your maximum weight.
- Your measured weight should be rounded to the nearest whole pound in the same manner as height.

FEELING THE SQUEEZE?

■ **Correction.** We need to make some changes to the "Feeling the Squeeze?" Weight Control Program story you saw in the Summer 1983 issue. *Scratch* this sentence: "If you meet the body fat standard and don't exceed the table's weight limit, you won't be put on the Weight Control Program." Replace that sentence with: "If you meet the body fat standard when you (or, rather, your percent body fat) is assessed, you won't be put on the Weight Control Program." Note that the next sentence reads: "However, you will be given a calculated "maximum allowable weight (MAW) which you may *not* exceed."

■ **Another correction.** We said that "An individual will be continued in the Weight Control Program after the initial six-month program *if* he still exceeds the body fat standard (or the maximum allowable weight) *and* has made satisfactory progress toward his MAW or is at or below the screening table weight." Not quite. An individual will be continued after the initial program if he still exceeds the body fat standard (or the maximum allowable weight) *and* has made satisfactory progress toward his MAW—no matter whether he is above, at or below the maximum screening table weight.

■ **Commissary privileges have been expanded.** You may have missed this item in the Winter 1983 issue: Army Reserve soldiers serving on fragmented Annual Training (AT) of 72 hours or less now have these privileges. These individuals can use commissaries beginning the first day of their final AT period and continuing on consecutive days—for as many days as their combined AT periods. The right to commissary access will have to be documented in orders published for the final increment of training.

■ **Watch for the Family Handbook for Mobilization.** Every Reservist should be getting one in the near future. It contains extensive explanations of what would happen during a mobilization, what assistance families of mobilized Reservists could receive from military installations, and how personal affairs should be handled *before* an emergency. The handbook will be well worth your reading. Make sure your family knows where it is.

■ **Reimbursement for CHAMPUS claims submitted by Army Reservists on short tours (30-179 days) may be denied.** That's *if* these Reservists are not part of the Defense Enrollment Eligibility Reporting Systems (DEERS). The way to avoid being denied reimbursement is to fill out and send in DD Form 1172, the Application for Uniformed Services Identification and Privilege Card. Those who don't obtain these cards and enroll their dependents (using the same form) will have problems with future medical claims. All CHAMPUS claims should include copies of tour orders.

■ **The brown undershirt must be worn with the Battle Dress Uniform (BDU) come April 1, 1984.** That's when the exception from this requirement for Army Reserve unit members expires. Incidentally, funds have recently been made available to speed up the issuance of two sets of BDUs to drill sergeants who are assigned to Army Reserve training divisions.

■ **Unit crests are no longer authorized for wear on the shoulder of the Army green shirt or the black pullover sweater.** However, commanders may authorize soldiers to wear the crest of their current unit over the name plate on the sweater.

LETTERS

SIGNING UP DOCS

SIR: I am writing in regard to your article in the Summer 1983 issue, "More USAR Docs Line Up to Sign Up." As one of those Army Reserve docs for the last four years, I have had many opportunities to see, firsthand, how well the AMEDD Reserve Program works and I have also been active in recruiting physicians for the Army Reserve. I have also worked closely with the AMEDD officer counselors.

Several years ago a new program, designed to enhance the flexibility within the medical community, was created by the First U.S. Army. Called the First Army Augmentation Division (FAAD), the program virtually permitted each Reserve physician to establish his own schedule of participation in the Army Reserve, without requiring the individual to maintain direct contact with his or her unit.

We reported our professional activities directly to FAAD Headquarters, Fort Meade, Md. This intuitive, ingenious and farseeing program brought hundreds of eager physicians into the Army Reserve. Beginning as an experiment, the FAAD is today AMEDD's star performer.

Working along with AMEDD officer counselors, I have explained the program and its flexibility to dozens of physicians. Once they have "signed on," their skepticism and disbelief turn to pure pleasure as the realities and opportunities of the FAAD become part of their professional lives.

I have found that the Army Reserve physicians who have joined me in the program have discovered a new sense of commitment and dedication.

Col. Norman Katz, MC, USAR
Brooklyn, N.Y.

MEDALS AND THINGS

SIR: I am sure that I am not alone in regretting the current regulation prohibiting the wearing of decorations on the summer uniform (the Army green shirt).

Can you tell the magazine's readers of any movement toward changing the regulation?

Maj. Boyd Johnson, USAR
Austin, Texas

Sorry. There are no plans to change the regulation.

U.S. Army photo by Bob Matteson

Skills quiz: a help or an insult?

LAUGHING LEARNER

SIR: Your special section—Back to Basics—(the Summer 1983 issue) was something I really enjoyed reading. It kept me snickering all through my corn flakes. I took it to work and it kept the crew in stitches all day. We may even have learned something from it.

Pfc. Linda LaGreca
Youngstown, N.Y.

RESPECT OUR INTELLIGENCE

SIR: First aid skills (including CPR), NBC warfare protection and field sanitation techniques are all essential elements with which every soldier must be familiar in order to better survive and accomplish his/her mission.

However, let's not patronize soldiers with condescending choices to the important multiple choice questions raised in your special section questionnaire (Summer 1983). The best part of that section dealt with cardiopulmonary resuscitation, and was based on information supplied by the American Red Cross.

If you expect your readership to respond seriously to these essential elements of soldiering, than you should not treat us as intellectual inferiors by offering us such foolish choices "order a pizza for two" in the question concerning the treatment of burn victims.

In short, shape up or ship out! Treat your readership with respect and, in turn, we shall all benefit from the subject matter contained in your magazine.

Capt. John Schiffeler
San Francisco, Calif.

YOU JERKS

SIR: Look here, you jerks! What do you take us for, a bunch of idiots or something?

In your Summer 1983 issue ("Back to Basics") only a fool would flunk the first aid test. If you are going to give us a test, make it hard so that we can know for sure if we need to brush up. Also, the nuclear/biological/chemical and field sanitation tests were as bad, but thanks for the CPR (cardiopulmonary resuscitation). I needed to brush up on that.

Pvt. 2 Carl B. Van DeKop
Conrad, Mont.

Our purpose in running the special section was to get your attention. We obviously succeeded. We hope that, through a small application of humor, our readers realize that we ignore the basics of soldiering at our peril, and that some Reservists would become interested enough to look further into the large variety of training literature available through units.

The two paratroopers collide.

They begin their awful plunge.

Reserve chutes pop, saving the lives of Eric and Mike.

Photos by Sgt. 1st Class Phillip Gonzales

Reservists Survive Death Drop

Quick reflexes and superb training are credited for saving the lives of two Army Reserve Special Forces troopers recently when their parachutes became entangled.

Staff Sgt. Eric Bergstrom and **Sgt. Michael Turner,** both members of the 3rd Battalion, 12th Special Forces Group, jumped from an Army helicopter over Tubbs Island, in northern Calif. As they left the helicopter, troubles began.

Bergstrom jumped first, and his canopy opened normally. When Turner jumped the lines on his chute tangled, and he plummeted into Bergstrom's canopy, collapsing it around him. The entangled pair, plunging periously toward earth, took immediate action. They freed themselves and pulled their reserve chutes.

Both men hit hard.

Said Bergstrom, "Things were happening quicker than I imagined them."

Lt. Col. Vanan Sipantzi, the Group chaplain, witnessed the incident.

He remarked that, "Both of them reacted almost instinctively and did what they were supposed to do. If either of them had panicked they might not have made it."

The two Reservists not only survived the fall, but made another jump less than an hour after the incident. That jump went off flawlessly.

Where There's Smoke There's Lovin

by Bill Setzer

Sgt. 1st Class Bobby G. Lovin loves to get into the thick of fire fights. He does it for a living—as commander of a fire company for the city of Asheville, N.C.

He's also the supply sergeant for Company A, 1/518, US Army Reserve, in Asheville.

During the long work week, Lovin's company of one engine and a special snorkel answers eight to 10 calls. All members of the crew are Emergency Medical Technician qualified, and have used cardiopulmonary resuscitation (CPR) on numerous occasions to revive accident and smoke inhalation victims.

Lovin says his pride and joy is the 1978 American LaFrance aerial snorkel truck.

The equipment is specially designed to rescue people and place a steady stream of water on a fire up to seven stories high. The snorkel has a turret-mounted, turbo water jet connected to a 750-gallon tank fed from a 1250-gallon tank on the truck. No price can be put on the lives this device has saved.

Lovin says he likes his position as a fire fighter because he enjoys helping the public.

The city of Asheville, he adds, "has really been super by allowing me to go to drills and Annual Training without schedule conflicts."

The only fire that bothered him was in 1975, when he became lost in a smoke-filled building. Using his training, he dropped to the floor and crawled out on his stomach after finding a familiar hallway.

Sgt. 1st Class Bobby Lovin atop his aerial snorkel rig.

U.S. Army photo by Bill Setzer

USAR Takes Garner's Picture

Jim Garner does his bit for the USAR at Fort Benning. U.S. Army photo

Cameras are not the only things that **James Garner** has been advertising lately. The well known actor was on a movie location at Fort Benning, Ga., when he was approached with the idea of doing a public service announcement for the Army Reserve's 75th anniversary celebration. Garner, who received a Purple Heart for wounds suffered in the Korean War, readily agreed to do the television spot.

Garner is probably best known for his television roles as Bret Maverick and James Rockford, as well as for his camera commercials.

Preliminary estimates indicate that 50 million Americans have seen Garner's spot on the Army Reserve 75th anniversary on commercial and cable stations across the country.

Sharpshooter!

Spec. 5 Ruby Fox claims her title (for the sixth time) of Woman Champion at the 1983 Pistol Championship, part of the 1983 National Matches, at Camp Perry, Ohio. An Individual Ready Reservist, Fox hails from Parker, Ariz.

Photo courtesy National Rifle Association

Cadet Recalls Freedom's Price

from a story by Bill Fellows

For **Tuan N. Nguyen,** a 23-year old mechanical engineering major and ROTC cadet at the University of Florida, the pursuit of the American Dream began with a harrowing escape on the steamy afternoon of April 30, 1975.

"My father, a signal officer in the Vietnamese Marines, was forced to leave Saigon during the final hours of the communist siege," remembers Tuan.

Those final days were frought with confusion and heartache for many Vietnamese families. However, for Tuan and his nine brothers and sisters, the outlook of youth tempered the pain. "I was only 14 at the time. When my family and I left for the docks at Saigon's Newport, I was still not aware that I would be leaving my country forever."

His boat was guarded by Vietnamese paratroopers who insisted that all personal belongs be left behind to insure additional room for other refugees waiting to come aboard. "Money and butter was all my mother kept," mused Tuan. "The rest of our personal belongings were thrown overboard."

Under the cover of darkness the boat slipped silently from its moorings and slowly made its way out to sea. "The water was rationed and food was scarce."

However, Tuan remembers a feeling of closeness, of community, even in difficult situations. He recalls that children played while families continued to search for loved ones.

A large U.S. military ship pulled alongside their boat to protect them from the dangerous swell of an ocean storm.

Spirits aboard the tiny vessel soared as rescue seemed at hand. "No more room," were the words which brought an abrupt halt to any thoughts of boarding the American ship, Tuan recalls. "Enough fresh water and food were transferred to the boat to insure safe passage to the Phillipines. At 14, I was too young to be homesick and too busy taking care of my sisters to think about it. You see, the idea of responsibility and discipline in the Vietnamese family is very different from that of Western cultures, and is much like the military chain of command. I became personally responsible for the welfare of the younger family members and was held accountable if I failed in my responsibility."

ROTC Cadet Nguyen recalls a chilling escape to the American Dream.

It was in Guam that Tuan learned that his father had made it to Wake Island and would eventually join the family at Fort Indiantown Gap, Pa.

Sponsorship for the Tuans was provided through an Episcopal church in Sarasota, Florida.

Reflecting on his days at Riverview High School, where he was a member of the Junior ROTC program, Tuan states, "My father made me study ten new words of English a day before I would be allowed to participate in soccer." Tuan graduated from high school with a 3.8 academic average.

"My father always favored U.S. military lifestyle and I think it's because of his influence and example that I'm looking forward to a career in the military."

Tuan completed ROTC Advanced Camp 83 this summer. He offers this advice to fellow cadets; his words undeniably reflect his experience: "It is important that we, as cadets, work together to set the example and learn from each other."

Get Ready for ARPERCEN!

Keep your eyes peeled and ears open for a new name—ARPERCEN.

ARPERCEN stands for the new Army Reserve Personnel Center. It is scheduled to begin operation on Oct. 1, 1983.

Colocated with the Reserve Components Personnel and Administration Center (RCPAC) in St. Louis, ARPERCEN takes over some of the responsibilities now handled by RCPAC.

The creation of ARPERCEN allows for closer supervision and direction of the management and professional development of all Army Reserve soldiers and mirrors the responsibilities of the Chief, Army Reserve for the management of the individual personnel assets of the USAR.

The decisions regarding ARPERCEN were made in conjunction with the review of the command and control structure which manages the Army Reserve.

Accordingly, the Officer and Enlisted Personnel Management Directorates (the personnel management officers and enlisted career counselors who can be reached on toll-free phone lines) and other parts of RCPAC will become elements of ARPERCEN.

And, ARPERCEN becomes what's called a "field operating agency" of the Office of the Chief, Army Reserve (OCAR), Washington, D.C.

Toll-Free Phones for Army Reserve Officers

Here are the toll-free numbers in St. Louis on which USAR officers can reach their personnel management officers (PMOs). If you're a member of the Individual Ready Reserve (IRR) or you're an Individual Mobilization Augmentee (IMA), the applicable phone number shown here is your link to assignments, attachments, Counterpart Training and military schooling.

Infantry	1-800-325-4881 1-800-325-4882 1-800-325-4883 1-800-325-4887 1-800-325-4889 1-800-325-4891 1-800-325-4893
Armor	1-800-325-4953 1-800-325-4954 1-800-325-4955 1-800-325-4956
Field Artillery	1-800-325-4898 1-800-325-4899 1-800-325-4950 1-800-325-4951 1-800-325-4952
Air Defense	1-800-325-4897
Aviation	1-800-325-4365 1-800-325-4382 1-800-325-4383 1-800-325-4384 1-800-325-4386
Engineer/ Chemical	1-800-325-4987
Military Police	1-800-325-4986
Signal	1-800-325-4985
Military Intelligence	1-800-325-4988
AG/Finance	1-800-325-4981
Quartermaster	1-800-325-4957
Ordnance	1-800-325-4958
Transportation	1-800-325-4980
Judge Advocate	1-800-325-4916
Chaplain	1-800-325-4914
Medical Corps	1-800-325-4919
Dental/ Veterinary	1-800-325-4919
Medical Specialist/ Medical Service (65, 68 series)	1-800-325-4972
Medical Service (67 series)	1-800-325-4973
Army Nurse	1-800-325-4912
Overseas Officers	1-800-325-1868
or AUTOVON	693-7602

Keep in mind that St. Louis is in the Central Time Zone.

The Soviets are Stealing Us Blind

by Willis J. Haas, Jr.

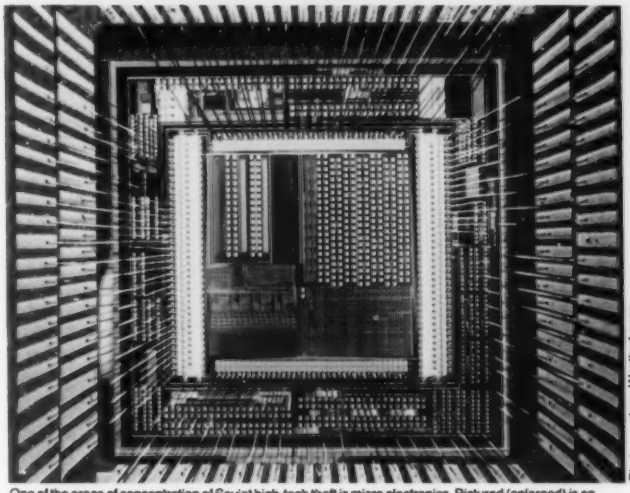


Photo courtesy Westinghouse

One of the areas of concentration of Soviet high-tech theft is micro electronics. Pictured (enlarged) is an American-made 64K memory chip.

Past masters at stealing Western technology and adapting it to their own use, the Soviets have, within the past few years, raised technological theft to a high art.

Despite early successes with satellite launchings, and stories of an advanced USSR educational system that turns out great numbers of scientists and engineers, the stark truth is that Soviet technology, research and development, is far behind that of advanced Western nations—especially the United States—and Japan. This is particularly true in "high-tech" areas such as microelectronics, computers and programming, lasers, structural metals, and a host of other products. So the Soviets have intensified their long-standing policy of "what we can't make, we'll steal." And, because most of what they want has military application and cannot be legally exported, the products must be both purloined and smuggled out of the country.

THOUSANDS OF SPIES

To do this, the Soviets have created a new espionage network for the express purpose of stealing Western technology and applying it to military use. According to a United Press International article in October 1982, the organization, staffed by some 20,000 people, has already shown remarkable success.

The report indicates that many items of civilian technology that are even more sophisticated than military technology can be bought legally and then converted to weapons use. Officials estimate that the leaks of technology have reduced the technological gap between the Russians and the West from 10-to-15 years to less than two years and, according to Central Intelligence Agency reports, have saved them billions of dollars in research costs. Some 150 Western items have been "incorporated into Soviet weapons systems," including night vision equipment and technology for the SS-20 missiles.

ALL GUNS, NO BUTTER

To further underscore how critical this technological drain is to our national well-being, it must be always kept in mind that the Soviet hierarchy has no interest in using this technological largess to improve its subjects' living standards. Their only concern is to upgrade their military capability. Here are a few unclassified examples of how the Soviets are turning our own technology against us.

- Soviet listening buoys, copied from advanced U.S. technology, have been discovered on both the east and west coasts of the United States and test areas used by our new Trident submarines. Defense Secretary Caspar Weinberger, in a speech to the National Conference of Editorial Writers, said the buoys' microelectronics were made in the Soviet Union, but were a replica of those manufactured in the United States.
- A new Soviet cruise missile, designed to be launched from the torpedo tubes of submerged submarines, has been dubbed the "Tomahawkski," because of its amazing resemblance to the U.S. Tomahawk missile. According to a Business Week article in April 1983, investigations revealed that not only had the Soviets pirated from U.S. shores the manufacturing technology used in the missile's turbofan engine, but the terrain-hugging Tomahawkski contains a compact computer-controlled radar guidance system filled with semiconductor chips so advanced that the U.S. is convinced that their origin must be American.
- The KGB *(Komitet Gosudarstvennoy Bazopasnosti,* the Committee for State Security) stole the design plans and drawings for the Air Force C-5A cargo plane before it ever flew.
- Missile silos of the SS-13, the Soviets' first solid propellant missile, are strikingly similar to the U.S. Minuteman silos.
- The Soviet SAM-7 surface-to-air missile which was so effective in Vietnam against low-flying U.S. aircraft, is largely a duplicate of the Army's Redeye missile.
- The KGB was tasked, and was largely successful, in stealing manufacturing components to fully equip a factory to produce integrated circuits and microcomputers. According to John Barron in his book *KGB Today: The Hidden Hand,* the operation was successful despite early warnings to the U.S. Government that it was going on.
- The Soviet Tu-144 supersonic airliner is almost a carbon copy of France's Concorde.
- The range finder on a new Russian tank is based on a U.S. design, according to CIA Deputy Director John N. McMahon.

The list of Soviet successes with

stolen technology goes on and on.

According to one FBI estimate, the Soviets get 90 percent of their intelligence from open sources; the other 10 percent, gotten through clandestine activities, is crucially important to Moscow.

KGB agents have been likened to vacuum cleaners in their quest for legally obtained materials. They frequent libraries, trade shows, educational seminars, government offices and industrial sales offices, and pick up every piece of literature available, or make copies.

So brazen are their activities that some have been chased out of congressional staff offices after requesting sensitive committee reports on defense-related subjects. In another reported incident, the KGB was detected while returning to this country for repair, a piece of high-tech equipment which they had stolen in the first place.

SPY NETWORK

The FBI estimates that some 35 percent of the more than 1,000 Soviet officials currently assigned to this country are spies, the highest number ever. In addition, many non-spies such as trade representatives, exchange students and visitors are given missions by the KGB. In one instance, visitors to a specialty steel mill were found to be wearing shoes with magnetic soles and heels with which to collect shavings of metal, to be later analyzed.

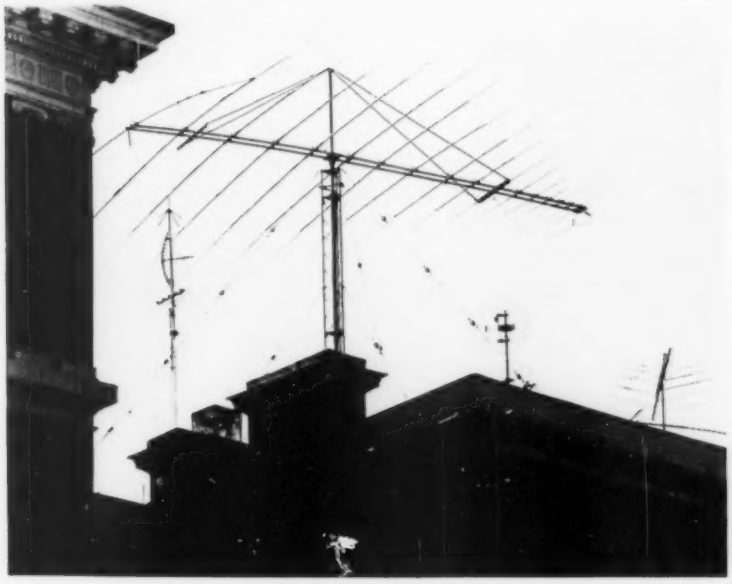
The Soviet spies work mostly out of three locations in the U.S.; Washington, New York and San Francisco, with the location of each installation designed to maximize electronic surveillance. In Washington, one high frequency antenna atop the Soviet Embassy points directly at the Pentagon and the State Department, while others focus on the CIA headquarters and nearby telephone facilities, and are positioned to monitor police and other government vehicles.

Soviet spies assigned to the United Nations headquarters in New York are especially well placed, as they are under no travel restrictions within the U.S., as are embassy and consulate employees there and elsewhere.

ALL TOO EASY

The most troubling aspect of the entire problem of so-called "technology transfer" is the ease with which it is done. Government agencies which deal in matters of counter-intelligence admit that they are unable to handle the sheer numbers of spies flooding the country. The FBI says that it cannot possibly monitor all 65,000 Soviet-bloc nationals entering the country each year. The

The Soviets are driven to copy Western technology. This TU-144 supersonic airliner is almost a carbon copy of France's Concord.
U.S. Air Force photo



The roof of the Soviet Embassy in Washington, D.C., bristling with listening devices, betrays the USSR's world-wide and sometimes blatant intelligence activities.
U.S. Army photo by Jim Haas

exact number of spies hidden in the group is unknown, but Director William H. Webster has claimed: "You may be sure the number is greater than the number of [FBI agents] assigned to foreign counterintelligence work."

To further compound the problem, manufacturers of non-defense related high-tech products are many times reluctant to withhold their wares from purchase by the Soviets, although, according to one source, the components of many products, such as video games are more sophisticated than most components used in defense gear. And, they are adaptable to military use.

The KGB is always searching for American citizens who can be lured into providing them with classified information. And, they are finding some, both military and civilian. But no longer do they seek out communist sympathizers and idealists as they did in earlier years. Their current targets are, as one Naval intelligence expert puts it, "mercenaries and cripples," individuals who are willing to sell secrets to anyone with ready cash.

KGB contempt for Americans is reflected in one of their training manuals, which states, "The average American soberly regards money as the sole means of ensuring personal freedom and independence . . . this attitude toward money engenders an indifference to the means by which it is obtained."

What can we as Americans, and Army Reservists, do to help stem the tide of Soviet thievery? One of the best ways is to be aware of the magnitude of the problem, and for the many Reservists who are employed in the types of industries targeted by the Soviets, to practice security at all times. Further, the FBI has been alerting defense contractors to "be on the lookout for anyone who seems interested in more than a plant tour." The same advice is applicable to any high-tech industry whose products have potential military application.

While FBI spokesmen advise that we should resist the temptation to become "amateur spy-hunters," it is also good to have a healthy suspicion when things don't seem right. Careless handling of classified documents, employees taking classified or sensitive documents home when they have no obvious reason for doing so, or acquaintances with access to sensitive materials suddenly appearing to have more money than they normally do are all danger signs. Don't disregard them.

OTHER NATIONS

Non-communist nations around the world are also beginning to realize the gravity of the Soviet assault. Since the beginning of 1983, some 90 Russians have been expelled from a number of countries for spying, to include neutral Switzerland, and Iran, according to the State Department. Additional numbers have been arrested for illegal activities. This number is far higher than in previous years.

In his *State Papers*, published in 1921, V. I. Lenin stated, "The capitalists will supply us with the materials and the technology we lack. They will restore our defense industry, which we need for our future victorious attacks upon our suppliers. In other words, the capitalists will work hard to prepare their own suicide." Since that time, no Soviet leader has disagreed with Lenin's assessment. Our technology is our first line of defense. We must not let it slip away.

Spec. 4 Lee Alexander, from Ozark, Ala., works on a Blackhawk rotor assembly. Her unit, the 367th Transportation Company, Fort Rucker, Ala., is one of two USAR units to gain first-hand experience in maintaining this powerful aircraft.

Photo by John Pinderhughes

The Blackhawk can carry more than twice the load of its predecessor, the "Huey."

Army Reservists get their first look at a Blackhawk turbine power plant.

Photo by John Pinderhughes

USAR Gets Latest Chopper

The Total Army Modernization Program has taken a step forward with the transfer of two Blackhawk helicopters to the Army Reserve.

The Blackhawk is the Army's newest general purpose helicopter, designed to replace the UH-1 "Huey," which was the Army's workhorse during Vietnam for carrying personnel, equipment and medical evacuees.

The Blackhawk can carry more than twice the payload of the "Huey", officials say, and can do it 42 knots faster. It is capable of moving a 105mm howitzer, its six-man crew and 30 rounds of ammunition in one lift.

At a recent ceremony at First U.S. Army headquarters at Fort George G. Meade, Md., the Army Reserve officially received the two Blackhawks. They have been assigned, in turn, to the 357th Transportation Company of Greencastle, Pa., and the 376th Transportation Company, Fort Rucker, Al.

According to Army Reserve officials, the readiness of the Army Reserve will improve as aviation intermediate maintenance companies gain first-hand experience by training on the latest equipment in use by the Active Component. The acquired skills would become essential during mobilization, say officials.

The helicopters assigned to the two maintenance companies will be used as a maintenance "float." Through a support agreement with the 101st Airborne Division (Air Assault), Fort Campbell, Ky., when a 101st Division Blackhawk becomes unserviceable, or is up for periodic maintenance it can be exchanged for one that is combat ready. When that aircraft has been rendered serviceable, it will then be exchanged for another requiring maintenance. This float system, officials say, provides not only necessary training to the Army Reserve units, but provides an additional source of combat ready equipment to the active component.

Reservists supervise the loading of an M-60 tank aboard the MV Cygnus, a roll-on/roll-off vessel, during Exercise Bold Eagle '82 at the Port of Savannah, Ga.

U.S. Army photo by Pete Shugert

A Key Joint Exercise Guide

by Peter Shugert

Each year the military services conduct hundreds of exercises with exotic names as Amalgam Chief and Balikatan/Tangent Flash. For the Army Reservist, staying abreast of these exercises is itself an exercise. The lack of familiarity with the names of the exercises, degree of Reserve participation, their purpose and where or when they take place is not uncommon.

Take the joint exercises. More than 50 such exercises are directed by or coordinated with the Joint Chiefs of Staff (JCS). Add to this each individual Services' exercises and major Army command (MACOM) exercises, then you have enough to fill a desk top dictionary or at least enough justification to purchase that personal computer you've always wanted. Army Reserve forces participate in about 12 exercises each year.

The USAR's role in exercises is growing and the Active Army is dependent on the Reserve to bolster the total force concept. An examination of these exercises will provide, in effect, an important guide for Reservists to use in developing a basic understanding of joint mobility/training exercises and how these exercises are structured to develop the critical skills in peacetime that will be employed during war. As such, this is an important first step for Reservist understanding of the key role they will play in total Army mobilization.

There are a number of major exercises in which Reserve participation is extensive. The names of these exercises are: LOGEX, Solid Shield, Able Archer, Gallant Knight, Gallant Eagle, Wintex/Cimex, REFORGER, and Team Spirit.

These exercises can be either a field training exercise (FTX) or a command post exercise, or both. A FTX actually exercises personnel and equipment deployed in the field. A CPX only exercises headquarters and planning staffs in operations without actually de-

ploying forces in the field.

LOGEX

LOGEX stands for Logistics Exercise and is the Army's principle logistics exercise generally held each fall at Fort Pickett, Va. It is a command post exercise that is designed to train Army units in joint command and staff procedures.

As in all exercises, specific objectives change each year. LOGEX trains participants in handling the problems they would encounter in a theater of operations during wartime. The importance of coordinated action among the Active Army, Army Reserve and Army National Guard is stressed.

In last year's exercise, more than 2,000 active duty and Reserve Component soldiers from 104 U.S. military units integrated to form a three and one-third division corps and corps support command.

SOLID SHIELD

Solid Shield is a biannual joint training exercise conducted in the Spring. This year's exercise, Solid Shield '83, was the 21st in a series of annual exercises conducted by the Commander-in-Chief, Atlantic, which emphasized the command and control of military forces in a simulated combat environment.

In the Solid Shield '83 scenario, fictitious military action took place between opposing sea, land and air forces. This included an air mobile assault and amphibious operation at Camp Lejeune and a paratrooper drop in support of mechanized and armor forces at Ft. Stewart, Ga. Some 9,800 Army, 16,000 Marines, 16,000 Navy and 5,000 Air Force personnel participated. The exercise provided an opportunity to exercise a combined arms force. The exercise is based on possible political/military situations that could conceivably occur anywhere in the world.

ABLE ARCHER

This is a CPX generally conducted in the fall. The purpose of Able Archer is to train commanders to operate in a conflict within the European theater.

GALLANT KNIGHT

Gallant Knight is a JCS coordinated CPX sponsored by the U.S. Readiness Command (USREDCOM). This year's exercise was conducted in the spring at Fort Bragg, N.C. and involved about 13,000 personnel from all four services. However, Navy and Marine activities performed operations at San Diego and Camp Pendleton, Calif. Gallant Knight '83 trained headquarters elements in control functions.

GALLANT EAGLE

Gallant Eagle is also held in the spring. It is a JCS FTX and CPX sponsored by USREDCOM and provides all the services a joint training environment in which commanders, staffs and units can examine joint doctrine and procedure.

WINTEX/CIMEX

Wintex/Cimex is a series of European oriented CPXs. This is a "cell exercise" that draws small numbers of servicemembers from a vast and diverse group of USAR units. Headquarters elements from approximately 222 USAR units participated in the last exercise.

The objective of the Wintex/Cimex exercise is to test military command and control procedures intended for use in time of international tension and crisis in the defense of Europe. The exercise also tests readiness procedures of other departments with respective governments.

TEAM SPIRIT

Team Spirit is the Pacific Version of REFORGER and is generally held each Spring. In the exercise, the four services join the military forces of the Republic of Korea. The purpose is to exercise, evaluate and improve procedures and techniques for responding to possible contingencies (a big word meaning hostile activities in the Korean theater). Team Spirit '82 included an Army Division Headquarters element and an Infantry Battalion Task Force; a Naval Task Force consisting of two carrier battle groups; an Amphibious Task Force with a Marine Air Ground Task Force and other surface combatants of the Seventh Fleet.

REFORGER

REFORGER is the acronym which stands for REturn of FORces to GERmany. Last year's exercise was the 14th in a series and is generally conducted in the fall. (In 1985, though, it will be held in the Winter). REFORGER demonstrates U.S. capability and resolve to reinforce Europe with NATO-committed ground and air units in a crisis situation. After arriving in Europe, both units participate in the annual NATO-sponsored series of ground and air exercises called Autumn Forge.

The Autumn Forge exercise series is designed to improve and demonstrate Allied Command solidarity for the mutual defense of Europe and refine rapid response procedures of host-nation players.

Last year, more than 19,000 soldiers and airmen and 29,000 measurement tons (one measurement ton equals 40 cubic feet) of equipment were deployed in August and September. Major Army units participating in REFORGER 82 included the 1st Infantry Division (Mechanized), Fort Riley, Kansas; 3rd Armored Cavalry Regiment, Fort Bliss, Texas; Headquarters III Corps, Fort Hood, Texas; and the 82nd Airborne Division, Fort Bragg, North Carolina. In addition, 28 combat service and combat support units and 39 Reserve Component units deployed in the exercise.

This was the largest number of Reserve Component units ever to deploy on a REFORGER exercise.

A Fitness Plan for YOU

by Major Larry Scott

Have you taken the Army Physical Readiness Test (APRT)? Have you heard or read about changes in the Army's Weight Control Program?

If you're getting the idea that the Army's putting more emphasis on physical fitness—you're right.

All the fuss is about mobilization. It will take fit soldiers to meet an emergency. Every member of the Army—including every Army Reservist—has to contend with getting in shape.

That's why this special section is written. It's meant to give you some practical ideas, a handle on getting and staying in shape, passing the APRT and making your life a little better.

WHAT IS PHYSICAL FITNESS?

Generally speaking you're considered physically fit if you can perform physically demanding activities, including "life" activities (work, recreation, etc.) for an extended period of time when called upon to do so. Physical fitness doesn't mean becoming involved in a crash program to pass the APRT. In fact this practice can be dangerous. The four basic parts, or components, of physical fitness are cardiorespiratory fitness, muscular fitness, flexibility and body composition.

WHY PHYSICAL FITNESS?

The several hundred muscles in your body enable you to walk, run, lift and carry; process food through your digestive tract; bring air into your lungs; pump blood through your body and contract or dilate blood vessels. Unlike the moving parts of an aircraft, tanks or other vehicles your muscles thrive on appropriate work, or exercise, and deteriorate in its absence.

CARDIORESPIRATORY FITNESS

Cardiorespiratory fitness is often referred to as aerobic (functioning in the presence of oxygen) fitness. Your degree of cardiorespiratory fitness depends on the combined efficiency of your heart, lungs and blood vessels.

The more muscular exertion there is, the more oxygen and other essentials the muscles require and the more waste products are given off. The greater your cardiorespiratory efficiency, the more muscular exertion your body can perform.

MUSCULAR FITNESS

Muscular fitness can be divided into two components: muscular strength and muscular endurance. Muscular strength has to do with the maximum amount of force a muscle or a muscle group can exert at a given instant. Mus-

cular endurance has to do with how long a muscle or group of muscles can continue to function with their available strength over time (e.g., during a cross country march or while unloading a truck full of heavy equipment).

FLEXIBILITY

Flexibility relates to your ability to move your joints through their entire (normal) range of motion. For a high degree of flexibility to be achieved in any joint, it's essential that the joint be moved through its normal range of motion when the muscles which make the particular joint work are exercised.

BODY COMPOSITION

Body composition has to do with the amount of body fat you have stored in your body. Everyone has some stored body fat. It is used for reserve energy to perform long hours of work. Unfortunately, some people carry too much body fat, which limits their physical fitness performance and contributes to their vulnerability to diseases such as diabetes and heart and lung ailments.

Before you undertake a vigorous physical conditioning program, you should ask yourself a set of questions to help you identify potential risks.

—Has your doctor told you that you have a heart condition or murmur or that you've had a heart attack?

—Do you have frequent pressure or pain in the middle of the left side of your chest area or in your left arm, neck or shoulder?

—Do you often feel faint, have spells of dizziness or actually pass out?

—Have you ever been told that your blood pressure is too high or not under control?

If one or more of these statements is true, make an appointment with your doctor to determine if any risks are involved in starting up your conditioning program. If there is a problem, get your doctor to help you design a program to avoid dangerous exertion but still achieve physical fitness.

Even if you have medical limitations, you can still exercise wisely and safely. Check with your doctor. An exercise program that will help you become fit but will not cause you further injury can be developed with your doctor's advice. For instance, if you can't run, maybe your doctor would authorize you to swim or bicycle. If you have a broken arm, obviously, you can't do pushups, but you may be able to work with weights with the other arm. Walking, running and stretching are other possibilities. The important thing is that you see your doctor if you have medical limitations.

Find out what you *can* do. Don't be discouraged by what you can't do.

Take Stock!

You can help yourself by taking an inventory of your health habits. Score yourself according to the instructions you see at the end of the questions. Give yourself a plus (+) or a minus (−) where you could improve the way you live.

1. If you participate in an aerobic activity (one that develops the heart, lungs and blood vessels) such as running, bicycling or swimming at least 30 minutes a day, give yourself a plus. + −

2. If you participate in a sport that promotes physical fitness, give yourself a plus. + −

3. If you do strength-building and flexibility-developing exercises every day, give yourself a plus. + −

4. If you scored 270 or more points on your last Army Physical Readiness Test (APRT) within the last six months, give yourself a plus. + −

5. If your intake of fat and sugar is moderate, give yourself a plus. + −

6. If you have had your blood cholesterol level determined in the last year and it is in the satisfactory range, give yourself a plus. + −

7. If you regularly consume adequate amounts of starches and fiber at each meal, give yourself a plus. + −

8. If you avoid both eating salty foods and adding salt to your food, give yourself a plus. + −

9. If you've had your blood pressure checked during the last year and it is in the satisfactory range, give yourself a plus. (If it was high and you are following your physician's advice on medication and diet, give yourself a plus.) + −

10. If you can pinch less than one inch of fat around your waist, give yourself a plus. + −

11. If you can stand in front of a mirror in a bathing suit and jump and down and nothing jiggles that isn't supposed to, give yourself a plus. + −

12. If you are realistic in setting your personal goals, give yourself a plus. + −

13. If you avoid taking your work and your work-related problems home with you, give yourself a plus. + −

14. If you have a hobby or recreational activity which you enjoy, give yourself a plus. + −

15. If you do not smoke, give yourself a plus. + −

16. If you do not drink alcohol in excess of two drinks within any 24-hour period, give yourself a plus. + −

17. If you do not abuse drugs, give yourself a plus. + −

SCORING: If you scored a plus on all 17 questions, congratulations. If you scored a minus on any question one through four, we can help you.

If you scored a minus on any question five through nine, start watching what you put in your mouth.

If you scored a minus on questions 10 and 11, you've got a weight control problem.

If you scored a minus on any question 12 through 13, knuckle down. It's time to apply some self discipline.

If you scored all minuses, call an ambulance.

Individual Aerobic Program

IF YOU ARE:	1. VERY POOR CATEGORY THEN:	1. VERY POOR CATEGORY GOAL:	2. POOR CATEGORY THEN:	2. POOR CATEGORY GOAL:
MALE under age 30	Start jogging 2 miles in 32 minutes; reduce time by 2 minutes each week for 8 weeks.	Maintain 2-mile run in 16 minutes. Conduct running a minimum of three times per week.	Start jogging 2 miles in 30-minutes; reduce time by 2 minutes each week for 7 weeks.	Maintain 2-mile run in 16 minutes. Conduct running a minimum of three times per week.
MALE 30-39	Start jogging 2 miles in 32 minutes; reduce time by 1 1/2 minutes each week for 10 weeks.	Maintain 2-mile run in 18 minutes. Conduct running a minimum of three times per week.	Start jogging 2 miles in 30 minutes; reduce time by 1 1/2 minutes each week for 8 weeks.	Maintain 2-mile run in 18 minutes. Conduct running a minimum of three times per week.
MALE 40-49	Start jogging 2 miles in 32 minutes; reduce time by 1 1/4 minutes each week for 10 weeks.	Maintain 2-mile run in 20 minutes. Conduct running a minimum of three times per week.	Start jogging 2 miles in 30 minutes; reduce time by 1 1/4 minutes each week for 8 weeks.	Maintain 2-mile run in 20 minutes. Conduct running a minimum of three times per week.
MALE 50-59	Start jogging 2 miles in 32 minutes; reduce time by 1 minute each week for 10 weeks.	Maintain 2-mile run in 22 minutes. Conduct running a minimum of three times per week.	Start jogging 2 miles in 30 minutes; reduce time by 1 minute each week for 8 weeks.	Maintain 2-mile run in 22 minutes. Conduct running a minimum of three times per week.
FEMALE under age 30	Start jogging 2 miles in 34 minutes; reduce time by 2 minutes each week for 6 weeks.	Maintain 2-mile run in 32 minutes. Conduct running a minimum of three times per week.	Start jogging 2 miles in 33 minutes; reduce time by 2 minutes each week for 5 1/2 weeks.	Maintain 2-mile run in 22 minutes. Conduct running a minimum of three times per week.
FEMALE 30-39	Start jogging 2 miles in 34 minutes; reduce time by 1 1/2 minutes each week for 7 weeks.	Maintain 2-mile run in 24 minutes. Conduct running a minimum of three times per week.	Start jogging 2 miles in 33 minutes; reduce time by 1 1/2 minutes each week for 6 weeks.	Maintain 2-mile run in 24 minutes. Conduct running a minimum of three times per week.
FEMALE 40-49	Start jogging 2 miles in 34 minutes; reduce time by 1 1/4 minutes each week for 7 weeks.	Maintain 2-mile run in 25 minutes. Conduct running a minimum of three times per week.	Start jogging 2 miles in 33 minutes; reduce time by 1 1/4 minutes each week for 6 1/2 weeks.	Maintain 2-mile run in 25 minutes. Conduct running a minimum of three times per week.
FEMALE 50-59	Start jogging 2 miles in 34 minutes; reduce time by 1 minute each week for 6 weeks.	Maintain 2-mile run in 28 minutes. Conduct running a minimum of three times per week.	Start jogging 2 miles in 33 minutes; reduce time by 1 minute each week for 5 weeks.	Maintain 2-mile run in 28 minutes. Conduct running a minimum of three times per week.

SO WHAT DO YOU DO?

I. Cardiorespiratory Exercise

- Not everyone needs to see a physician—young people (under age 40) and those already fit, for example.
- However, if you have identified some potential personal risks, you should make an appointment with your physician and follow his or her advice.
- We do *not* advise you to start the Individual Aerobic Program you see here until you have talked with your physician if you have a possible medical problem.

3.

FAIR CATEGORY

THEN:	GOAL:
Start jogging 2 miles in 29 minutes; reduce time by 2 minutes each week for 6 weeks.	Maintain 2-mile run in 16 minutes. Conduct running a minimum of three times per week.
Start jogging 2 miles in 29 minutes; reduce time by 1 1/2 minutes each week for 7 weeks.	Maintain 2-mile run in 20 minutes. Conduct running a minimum of three times per week.
Start jogging 2 miles in 29 minutes; reduce time by 1 1/4 minutes each week for 7 weeks.	Maintain 2-mile run in 20 minutes. Conduct running a minimum of three times per week.
Start jogging 2 miles in 29 minutes; reduce time by 1 minute each week for 7 weeks.	Maintain 2-mile run in 22 minutes. Conduct running a minimum of three times per week.
Start jogging 2 miles in 32 minutes; reduce time by 2 minutes each week for 5 weeks.	Maintain 2-mile run in 22 minutes. Conduct running a minimum of three times per week.
Start jogging 2 miles in 32 minutes; reduce time by 1 1/2 minutes each week for 6 weeks.	Maintain 2-mile run in 24 minutes. Conduct running a minimum of three times per week.
Start jogging 2 miles in 32 minutes; reduce time by 1 1/4 minutes each week for 6 weeks.	Maintain 2-mile run in 25 minutes. Conduct running a minimum of three times per week.
Start jogging 2 miles in 32 minutes; reduce time by 1 minute each week for 4 weeks.	Maintain 2-mile run in 28 minutes. Conduct running a minimum of three times per week.

4.

GOOD CATEGORY

THEN:	GOAL:
Start jogging 2 miles in 25 minutes; reduce time by 2 minutes each week for 5 weeks.	Maintain 2-mile run in 16 minutes. Conduct running a minimum of three times per week.
Start jogging 2 miles in 25 minutes; reduce time by 1 1/2 minutes each week for 5 weeks.	Maintain 2-mile run in 18 minutes. Conduct running a minimum of three times per week.
Start jogging 2 miles in 25 minutes; reduce time by 1 1/4 minutes each week for 4 weeks.	Maintain 2-mile run in 20 minutes. Conduct running a minimum of three times per week.
Start jogging 2 miles in 25 minutes; reduce time by 1 minute each week for 3 weeks.	Maintain 2-mile run in 22 minutes. Conduct running a minimum of three times per week.
Start jogging 2 miles in 31 minutes; reduce time by 2 minutes each week for 4 1/2 weeks.	Maintain 2-mile run in 22 minutes. Conduct running a minimum of three times per week.
Start jogging 2 miles in 31 minutes; reduce time by 1 1/2 minutes each week for 5 weeks.	Maintain 2-mile run in 24 minutes. Conduct running a minimum of three times per week.
Start jogging 2 miles in 31 minutes; reduce time by 1 1/4 minutes each week for 5 weeks.	Maintain 2-mile run in 25 minutes. Conduct running a minimum of three times per week.
Start jogging 2 miles in 31 minutes; reduce time by 1 minute each week for 3 weeks.	Maintain 2-mile run in 28 minutes. Conduct running a minimum of three times per week.

Start with the Fair Category Level. Conduct your running program at least three times a week until you reach the goals as shown. If you think that your workout is not demanding enough at the rate of progression that your individual program calls for, don't increase your pace.

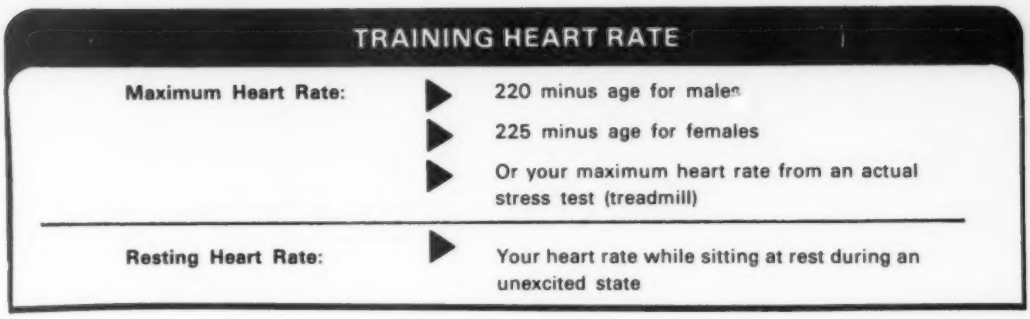
Instead, run an additional distance after you've completed your 2-mile course. This additional mileage could be at the same or slower pace. If you have trouble keeping the pace, spend an extra week at your present pace and gradually increase it to get back on schedule. Or, drop back to the next lower level (category) and follow its schedule until the lower category's goals are met.

Once you've achieved your category's goals it's time to move on to the next higher category.

5.

6.

IF YOU ARE:		EXCELLENT CATEGORY		SUPERIOR CATEGORY	
		THEN:	GOAL:	THEN:	GOAL:
MALE	under age 30	Start jogging 2 miles in 23 minutes; reduce time by 2 minutes each week for 4 weeks.	Maintain 2-mile run in 16 minutes. Conduct running a minimum of three times per week.	Start jogging 2 miles in 18 minutes; reduce time by 2 minutes for 1 week.	Maintain 2-mile run in 16 minutes. Conduct running a minimum of three times per week.
	30-39	Start jogging 2 miles in 23 minutes; reduce time by 1 1/2 minutes each week for 4 weeks.	Maintain 2-mile run in 18 minutes. Conduct running a minimum of three times per week.	----------	Maintain current level of fitness. Conduct running a minimum of three times per week.
	40-49	Start jogging 2 miles in 23 minutes; reduce time by 1 1/4 minutes each week for 3 weeks.	Maintain 2-mile run in 20 minutes. Conduct running a minimum of three times per week.	----------	Maintain current level of fitness. Conduct running a minimum of three times per week.
	50-59	Start jogging 2 miles in 23 minutes; reduce time by 1 minute each week for 1 week.	Maintain 2-mile run in 22 minutes. Conduct running a minimum of three times per week.	----------	Maintain current level of fitness. Conduct running a minimum of three times per week.
FEMALE	under age 30	Start jogging 2 miles in 28 minutes; reduce time by 2 minutes each week for 3 weeks.	Maintain 2-mile run in 22 minutes. Conduct running a minimum of three times per week.	----------	Maintain current level of fitness. Conduct running a minimum of three times per week.
	30-39	Start jogging 2 miles in 28 minutes; reduce time by 1 1/2 minutes each week for 3 weeks.	Maintain 2-mile run in 24 minutes. Conduct running a minimum of three times per week.	----------	Maintain current level of fitness. Conduct running a minimum of three times per week.
	40-49	Start jogging 2 miles in 28 minutes; reduce time by 1 1/4 minutes each week for 2 1/2 weeks.	Maintain 2-mile run in 25 minutes. Conduct running a minimum of three times per week.	----------	Maintain current level of fitness. Conduct running a minimum of three times per week.
	50-59	----------	Maintain current level of fitness. Conduct running a minimum of three times per week.	----------	Maintain current level of fitness. Conduct running a minimum of three times per week.


TRAINING HEART RATE
Maximum Heart Rate:
220 minus age for males
225 minus age for females
Or your maximum heart rate from an actual stress test (treadmill)
Resting Heart Rate:
Your heart rate while sitting at rest during an unexcited state

HEART RATE

Another way of measuring cardiorespiratory fitness is by monitoring your training heart rate.

It's easy to do. Take your pulse at either the carotid artery (at either side of your neck) or at your radial artery (at your wrist).

The first pulsation you feel when you start timing should be counted "zero." Then continue counting the pulsations "1,2,3,4,5 . . ." until the time is up. Take your pulse for 10 seconds and multiply by six.

Example: Begin a 10-second count. Count the first pulsation as zero; count the rest as 1,2,3, etc. If you count to twelve, your heart rate is 72 beats per minute.

You can determine your training heart rate by looking first at the following chart:

Note your predicted maximum heart rate. It's what's left when you subtract your age from either 220 or 225 that becomes your maximum rate (unless you have had an actual stress test that has measured your actual maximum heart rate). However, if you have heart disease, symptoms of heart disease or you're taking medication which affects your heart rate you should undergo a physician-supervised test. In this way, your true maximum heart rate, and thus your training range, can be determined.

What's your training rate? It's suggested that the training rate should be no more than 80 percent of the maximum and no less than 60 percent. The idea is to work toward the upper limit.

Example: You are a 30-year old male. By subtracting your age from 220, you now have a suggested maximum heart rate of 190 beats per minute. During exercise you want to achieve a training heart rate between 60 percent and 80 percent of this maximum. In other words, your training heart rate should be between 114 and 152 beats per minute.

PUSHUP-SITUP ASSESSMENT

1-MINUTE PUSHUP ASSESSMENT

Fitness Category	AGE: 17-25 Male	17-25 Female	26-30 Male	26-30 Female	31-35 Male	31-35 Female	36-39 Male	36-39 Female
Excellent	47	28	45	25	42	24	42	22
Good	38-46	21-27	36-44	18-24	31-41	17-23	31-41	16-21
Minimum	30-37	13-20	27-35	11-17	24-30	11-16	20-30	10-15
Below Minimum	9-29	5-12	9-26	5-10	9-23	5-10	9-19	5-9
Poor	8	4	8	4	8	4	8	4

1-MINUTE SITUP ASSESSMENT

Excellent	48	42	46	34	45	27	44	27
Good	37-47	28-41	36-45	27-33	35-44	22-26	33-43	22-26
Minimum	25-36	17-27	25-35	18-26	20-34	16-21	18-32	16-21
Below Minimum	10-24	8-16	10-24	8-17	8-19	7-15	8-17	7-15
Poor	9	7	9	7	8	6	7	6

II. Muscles

Take a look at the pushup, situp assessment chart shown here.

To measure your muscular strength and endurance do your maximum number of pushups in one minute. And, do the situps in the same way. After completing these tests refer to the chart. Find your age group and sex; then read down until you find the number of situps and pushups that you completed in the 1-minute period. Then go across to your left and find your category (poor, below minimum, minimum, good, excellent). These tables correlate to the Army Physical Readiness Test Scoring Tables.

You will see easily where your muscles need work.

The best way of developing (improving) muscle fitness is to start a planned, faithfully executed regimen, paying particular attention to exercising the muscles through a full range of motion.

Don't get discouraged if your progress isn't instant. It takes time to see noticeable results.

To increase your muscles' fitness, you have to STRESS them. The stress will cause them to gain strength and endurance.

What's your goal? It's the Excellent Category, a level of numbers (repetitions) corresponding to your age group indicated on the chart.

How do you work your way up? Where do you start?

A way to organize is to think in terms of repetitions and sets. A repetition is engaging in a movement one time. A set is a series of repetitions.

Let's take an example. You may, in developing your upper body strength, find it comfortable to attempt three sets of 20-pushup repetitions. Rest a minute (stand up, walk around) between each set. Then, gradually, increase the number of repetitions in each set.

Your muscles need rest. They need 48 hours to recover from strength-related activity. This is why you should do your strength training only on alternate days.

If you have access to weight training equipment, follow the repetition and set arrangement described above.

FLEXIBILITY EXERCISES

☐ **Toe Pull (for groin and thighs)**

Pull on toes while pressing legs down with elbows.

Variation: Lean forward and try to touch head to feet or floor.

☐ **Seated Toe Touch (for back and hamstrings)**

With toes pointed, slowly slide hands down legs until you feel stretch; hold position and slowly pull until head approaches legs. Relax. Draw toes back and slowly attempt to touch toes. Repeat five times.

Variation: Try toe touch with legs apart.

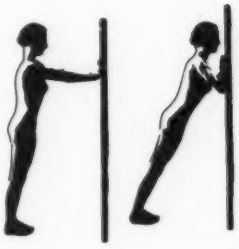
☐ **Standing Toe Touch (for back and legs)**

With legs straight, slowly bend over and reach as far as possible. Hold for five counts; then bob lightly. Repeat several times.

Variation: Grasp back of ankles and pull until head approaches knees.

☐ **Wall Stretch (for Achilles tendon)**

Stand 3 feet from wall, tree, pole, or person. Keep feet slightly apart. Put both hands on wall. With heels on ground, lean forward slowly and feel stretch in calves. Hold position for 15 to 20 seconds. Repeat several times.



III. Flexibility

How do you measure flexibility? Stand in your stocking feet with your feet together and with your hands at your side. Lean down slowly, keeping your knees straight, and touch the floor with your fingertips.

If you can do this successfully—you pass. If you can't do it you need to work on flexibility in the lower back, hip and knee regions. You've just taken the Kraus-Weber Floor Touch Test.

Flexibility is an important component of physical fitness that is frequently overlooked or ignored when fitness programs are being planned. The importance of flexibility lies in its relationship to health and the functional capacity of the body. Even highly trained athletes spend an average of 10 to 15 minutes before each workout or competition developing or maintaining their level of flexibility. You should spend approximately five minutes before the strenuous part of the workout and five minutes afterward on flexibility exercises. Without flexibility you may be a candidate for muscle pulls and tendon strains during any physical fitness program that demands exertion or even from the rigors of every day life.

- Begin a flexibility routine by first increasing your body temperature. This can be accomplished by running in place slowly or by some other cardiorespiratory type of activity. It is generally believed that exercise to elevate body temperature increases the pliability of connective muscle tissue, such as tendons, joint capsules and skin, thus providing a greater potential for increased flexibility and less likelihood of injury.
- Do not force body parts beyond their normal range of motion.
- A minimum of five stretch repetitions should be performed for each exercise. Each passive stretch repetition should be held in the stretched position at least 10 seconds.
- Continue breathing throughout the stretch repetitions. Holding your breath places undue pressure on the heart and may cut off oxygen to the brain.
- Active stretching can be performed by individuals who already have good flexibility. Even then the amount of stretching should be carefully controlled by gradual increases in successive repetitions.
- Stretching exercises must be performed for every muscle group or joint in which you wish to increase or maintain flexibility.
- Exercises that do not create "stretch demand" (e.g., muscle lengthening beyond the norm) do not improve flexibility.

Eating

Your diet, lifestyle and attitudes affect your body composition.

What you are is determined to a large extent by what you eat. Here are a few pointers on improving your eating habits:

- Eat a variety of foods. It will assure that you consume all the nutriments you need and reduce your risk of eating excessive contaminants.
- Maintain an ideal body weight (see the weight control story in our last issue).
- Avoid foods containing excessive fat, saturated (animal) fat and cholesterol.
- Eat foods with adequate starch and fiber.
- Avoid too much sugar.
- Avoid too much salt.
- If you drink alcohol do so in moderation.

This is a very rough, simple list—volumes can be and have been written about diets. Watch the next issue for a detailed story on diet and nutrition.

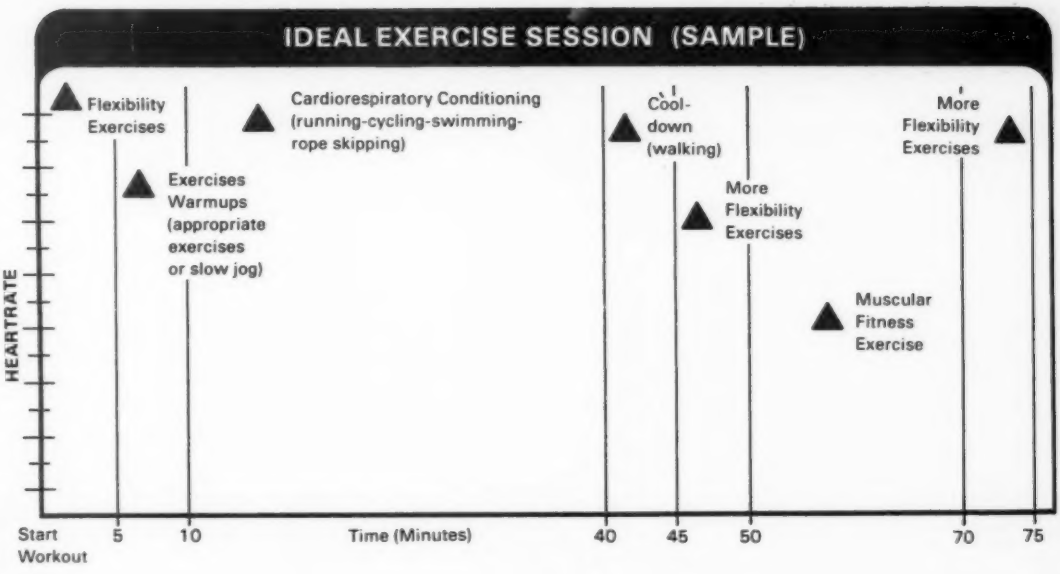
Putting It All Together

Getting fit requires conscious effort. This means working out three to five times a week. Exercise should cover all the components of physical fitness with an emphasis on cardiorespiratory endurance. How much time you spend on the other components, or parts, depends on what happens in your assessment tests. If you do poorly on the muscle fitness or flexibility tests, you need to work on improving those areas. If you do well, heavy concentration isn't required. The chart here gives you an idea of what can be done in a good 75-minute workout.

You should try to log your progress in some way. The log will show what you've done, where you stand and, with some discipline, where you're capable of going.

There are no shortcuts to becoming physically fit. It takes your determination and willingness to get good results. If you want more extensive information it can be found in DA Pam 350-18, the Individual's Handbook on Physical Fitness.

To get a copy have your unit order the publication. Or, if you're not a member of an Army Reserve unit you can write the U.S. Army AG Publications Center, 2800 Eastern Boulevard, Baltimore, Md. 21220.



The diagram here gives you a good idea of what can be done in a 75-minute workout. It ties together many of the principles that have been discussed in this fitness section.

What You Can Do Without Equipment

Situps: Abdominal & Hip Muscles

Do the maximum number of situps that you can one day a week, using the same rules applied in taking the 1-minute assessment test. Try to improve on the number you did in the previous week. On the other two days, do slow situps, taking about two seconds to lower your body. Keep your back arched with your head back. Start out with two sets of 8-10 reps. As you improve, try holding a five- to 10-pound weight behiind your neck to increase the difficulty.

Pushups: Arm & Shoulder Muscles

Do the maximum number of pushups that you can one day a week, using the rules applied in the 1-minute assessment test. Try to improve on the number you did in the previous week. On the other two days, do slow pushups. Assume your regular pushup position; then slowly push yourself, taking about four seconds. Start by doing as many pushups in this way as possible, emphasizing precision and keeping your back straight and head up. When you can no longer push yourself back up to the starting position, let your knees rest on the floor to help you return to the starting position. Once back to the starting position, lift your knees off the floor (supporting points are now toes and hands) and let yourself down again slowly. Continue using your knees to help yourself return to the starting position, and let yourself down slowly until you can no longer do the "down" (negative) portion of the pushup. After you are no longer able to do the "pushup" (positive) portion, you should do two things. First, you should stress your muscles sufficiently to increase their strength. This won't happen if you merely do a set or two of 25 to 30 pushups. Second, you will increase the number of correctly performed pushups you can do more quickly than if you stop when you can no longer do the positive form of this exercise. Note one important safety precaution: be careful to breathe. Do not hold your breath. Start by doing one set of these slow pushups; after the first couple of weeks, increase to two sets and approximately a 1-minute rest between sets.

Chair Dips: Shoulder, Arm & Chest Muscles

Place two chairs approximately 20 inches apart. Sit on the floor directly between the chairs and place a hand on each chair. Extend your legs straight out in front of you (position no. 1). Slowly push yourself up until your arms are straight (position no. 2). Then lower yourself down to the floor. Start with one or two sets of 8-10 reps, and increase to three sets as you progress.

Position 1

Position 2

4-WEEK WORKOUT PROGRESS CHART

NAME _____ AGE _____

1.5-Mile Run Assessment: Time _____ Category _____

Pushup Test Assessment: Number _____ Category _____

Situp Test Assessment: Number _____ Category _____

Flexibility Test: Pass or Fail

		Running Distance	Time	Flexibility Exercises	Muscular Exercises	Other Activities		
WEEK 1	SUN							
	MON							
	TUES							
	WED							
	THURS							
	FRI							
	SAT							
WEEK 2	SUN							
	MON							
	TUES							
	WED							
	THURS							
	FRI							
	SAT							
WEEK 3	SUN							
	MON							
	TUES							
	WED							
	THURS							
	FRI							
	SAT							
WEEK 4	SUN							
	MON							
	TUES							
	WED							
	THURS							
	FRI							
	SAT							

1.5-Mile Run Assessment: Time _____ Category _____

Pushup Test Assessment: Number _____ Category _____

Situp Test Assessment: Number _____ Category _____

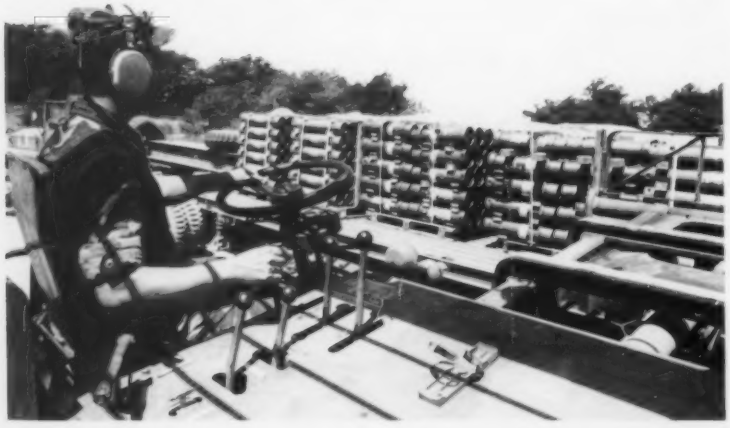
Flexibility Test: Pass or Fail

Here's an idea for a log of your physical progress. You may want to record your activity differently. What's important is that you log what you do. The categories indicated on this chart correspond to those of the Individual Aerobic Program that starts on page 20.

Annual Training '83 at Fort Drum, N.Y. . . .

Spec. 5 Larry Cooper (right) and Spec. 4 Alonzo Holland, members of the 224th Military Intelligence Company, Philadelphia, Pa., examine developed negatives. This quiet, close work is important to intelligence operations.

Photo by John Pinderhughes



Staff Sgt. Angel Figueroa uses a forklift to load flatbed trucks with 8-inch howitzer ammo. He's assigned to the 256th Ordnance Company, Puerto Rico. Between July 15 and July 16, 1983, the 256th issued 255.6 short tons of ammunition. That tops the summer record at Fort Drum for distribution in a 24-hour period held previously by a West Virginia USAR unit.

Photo by John Pinderhughes

Pvt. 1 Chris Williams, a member of the 1019th Supply and Service Company, Syracuse, N.Y., picks up some pointers on canvas repair from Master Sgt. David Therte. Therte is assigned to the Quartermaster School, Fort Lee, Va.

Photo by John Pinderhughes

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